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Yang Hwan No

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MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER

EUSTAQUIO, CAL J

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 10/562,507 | Applicant(s) NO ET AL. | |
| | Examiner CAL EUSTAQUIO | Art Unit 2612 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/30/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/30/2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statements

1. The Information Disclosure Statements, submitted 4/3/2007, 5/5/2008, 7/1/2008, 3/24/2009, 2/25/2010, 3/29/2011, 3/30/2011, 4/25/2011, and 5/24/2011 have been considered unless otherwise noted.

Claim Rejections - 35 USC § 112, 2nd paragraph

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. **Claim 5, 16, and 51**, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
4. **Claim 38** recites the claimed limitation "guide rib." There is no antecedent basis for this limitation.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claim 1, 6, 18, 19, 21, 41, 42, and 44** are rejected under 35 USC 102(b) as being anticipated by Mosebrook et al, U.S. 5,905,442.

As to claim 1, Mosebrook recites the claimed: A remote monitor for a home appliance, the remote monitor being connected to at least one home appliance with a predetermined communications system for displaying, and controlling of a state of the home appliance at a place far from the home appliance (Abstract), comprising:

a case forming an outside appearance of the remote monitor, including a lower case, (col. 15, lines 40-57, FIG. 4, element 200), and an upper case detachably mounted on an upper side of the lower case (as above, element 211), the upper case having a window; and

a control board in the case, the control board having various electronic components mounted thereon (as above, element 205).

As to claim 6, Mosebrook recites the claimed: The remote monitor as in **claim 1**, wherein the communication system is a power line communication system for transmission/reception of data through a power line. Col. 7, lines 1-16.

As to claim 18, Mosebrook recites the claimed: The remote monitor as claimed in **claim 1**, wherein the upper case includes a button hole, with an operation button provided therein for being brought into contact with a switch on the control board as the operation button is pressed. Mosebrook, col. 15, lines 40-57, recites using a set of buttons in a similar manner claimed above.

Except for the claimed: and returning to an original position after being pressed. Mosebrook, as previously recited, includes a set of buttons used in the remote control monitoring system. However, Mosebrook doesn't recite the use of a returning to an original position. However, the Applicant's specification doesn't specifically describe the rationale for providing such a structure involving a return. Therefore, the recited feature of a return on a spring is not given patentable weight and is therefore deemed a design choice.

As to claim 19, Mosebrook recites the claimed: The remote monitor as claimed in **claim 18**, wherein the operation button includes;

a pressing portion passed through the button hole and exposed to an outside of the upper surface of the upper case, and

a mounting portion formed as one body with the pressing portion at a lower portion for being held in an underside of the upper case around the button hole. See Mosebrook, col. 15, lines 40-57 and FIG. 4 and 5.

As to claim 21, Mosebrook recites the claimed: The remote monitor as claimed in **claim 19**, wherein the mounting portion includes a contact projection on an underside to be in contact with a switch on the control board. See Mosebrook, col. 15, lines 40-57 and FIG. 4 and 5.

As to claim 41, Mosebrook recites the claimed: The remote monitor as claimed in **claim 1**, further comprising securing means for securing the case to a wall at a place far from the home appliance. See Mosebrook, col. 15, lines 40-57 and FIG. 4 and 5, in particular wall mounting plate 201 and 401.

As to claim 42, Mosebrook recites the claimed: The remote monitor, as claimed in **claim 41**, wherein the securing means includes;

A mounting portion projected outward from a bottom of the lower case which is an exposed side of the lower case, and

a hanger to be fixedly secured to the wall far from the home appliance for placing the mounting portion thereon. See rejection of **claim 41**, in particular, the lower portion 200 in respect to the size of bottom portion 200.

As to **claim 44**, Mosebrook recites the claimed: The remote monitor as claimed in **claim 42**, wherein the hangar has a size smaller than a size of the lower case. See rejection of **claim 42**

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

8. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
9. **Claim 2** is rejected under 35 USC 103(a) as being obvious over Mosebrook.

As to **claim 2**, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 1**, wherein the control board includes;

a communication modem board for transmission/reception of data to/from the home appliance,

a display board mounted on the communication modem board fixedly, or detachably for displaying a state of the state of the home appliance to an outside.

Mosebrook, as in the rejection of **claim 1**, includes a remote appliance controller indicator which includes options for displaying the status of the monitored system. Included in the recitation is at least one home appliance with a predetermined communications system for displaying, and controlling of a state of the home appliance. Furthermore, Mosebrook, in col. 16, lines 46-67, recite a remote control master controlling and obtaining the status of the controlled appliances. However, Mosebrook doesn't explicitly teach a communications system constructed in the claimed manner in which a display board is mounted on a communication modem board. However, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the added embodiments of a command, control, and displaying function, as recited above, to provide a system that includes the functionality of the claimed invention. Although Mosebrook doesn't express the use of a modem board coupled to a display in the same light as the claimed invention, claiming the structure of the system in a particular manner doesn't make the claimed invention patently distinct from the prior art if the claimed invention doesn't provide new or unexpected results, furthermore, see below with regards to integrating different elements:

In re Larson, 144 USPQ 347 (CCPA 1965) "While the brake disc and clamp of *Tuttle et al.* comprise several parts, they are rigidly secured together as a single unit. The constituent parts are so combined as to constitute a unitary whole. Webster's New International Dictionary (Second Edition) defines "integral" as "(2) Composed of constituent parts making a whole composite; integrated." We are inclined to agree with the board's construction of the term integral" as used in claim 12. Then, too, we are inclined to agree with the position of the solicitor that the use of a one piece construction instead of the structure disclosed in *Tuttle et al.* would be merely a matter of obvious engineering choice. *In re Fridolph*, 50 CCPA 745, 89 F.2d 509, 135 USPQ 319. *In re Lockhart*, 90 USPQ4214 (CCPA 1951) "After a careful examination of the record, we do not find ourselves in agreement with appellant's argument. Although it is true that invention may be present under some circumstances in making integral that which was separate before, we do not feel that such is the case here. Improved results only will not take the case out of the general rule. There is also a requirement that the unification or integration involve more than mere mechanical skill. *In re*

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Murray, 19 C.C.P.A. (Patents) 739, 53 F.2d 541, 11 USPQ 155; *In re Zabel et al.*, 38 C.C.P.A. (Patents) 832, 186 F.2d 735, 88 USPQ 367. “In this case, all of the essential elements of the appealed claims except integration of parts, are found in the references. It appears to us that the unity or diversity of parts would depend more upon the choice of the manufacturer, and the convenience and availability of the machines and tools necessary to construct the syringe, than on any inventive concept. *Howard v. Detroit Stove Works*, 150 U.S. “As to the third patent, it is void because the claims in it were clearly anticipated, and because it involves no invention to cast in one piece an article which has formerly been cast in two pieces and put together, nor to make the shape of the grate correspond with that of the firepot.”

10. **Claim 3** is rejected under 35 USC 103(a) as being obvious over Mosebrook in view of Post et al., U.S. 2003/0193402.

As to **claim 3**, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 2**, wherein one of the communication modem board or the display board includes male terminal pins, and the other one includes female terminal pins opposite to the male terminal pins for placing in the female terminal pins. Mosebrook recites a control board in the case, the control board having various electronic components mounted thereon, as in the rejection of claim 1, element 205. However Mosebrook doesn't recite using female and male terminal pins. In the same art of electronic equipment, Post, [0112], recites in the illustrated embodiment, female pins 556 on a connector 210 are configured to matingly engage male pins 558 on a board connector 510. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the pin connection system recited in Post to provide a remote control communications system that includes both male and female pins for interconnection. Such pins are common and old in the art and one of ordinary skill would have had a likelihood of success in producing the above predictable system as claimed in the invention.

11. **Claim 4** is rejected under 35 USC 103(a) as being obvious over Mosebrook U.S. 5,905,442 in view of Gould et al., U.S. 5,453,685.

As to claim 4, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 2**, further comprising at least one supporting pin passed through the communication modem board and supporting the display board. Mosebrook, in col. 16, lines 46-67, recite a remote control master controlling and obtaining the status of the controlled appliances. However, Mosebrook doesn't explicitly teach a communications system constructed in the claimed manner in which a display board and a supporting pin passes through it and modem board. In the same art of electronic equipment, Gould, col. 4, lines 58-67, recites a plurality of pins for supporting a circuit board. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the supporting pin structure of Gould to produce a system that includes the recited pin system. Such pins are common and old in the art and one of ordinary skill would have had a likelihood of success in producing the above predictable system as claimed in the invention.

12. **Claims 5** is rejected under 35 USC 103(a) as being obvious over Mosebrook, U.S. 5,905,442 in view of Cox et al., U.S. 2003/0133269.

As to claim 5, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 2**, wherein the display board includes; an LCD segment fastened thereto with screws, or hooks for display of state information, such as a progress of operation and cycle error of the home appliance, to an outside with numerals or characters. Mosebrook, in the rejection of **claim 1**, includes an indicator system. However, Mosebrook doesn't describe this display system as an LCD system nor using mounting screws or hooks to fasten the same. In the same art of electronic equipment, Cox, [0007 and 0042] includes an electronic controller that uses liquid crystal displays. Furthermore, [0041] recites the unit including threaded bores for attachment of screw

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fasteners. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the electronic system recited in Cox to produce a device that includes LCD display systems and the use of screw fasteners. Using such components are not new in the art of electronic equipment and one of ordinary skill in the art, apprised of such known devices would have had a likelihood of success in produce the predictable claimed invention.

13. **Claims 7-9** are rejected under 35 USC 103(a) as being obvious over Mosebrook, U.S. 5,905,442 in view of Yokobori, U.S. 2001/0035442.

As to **claim 7**, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 1**, wherein the upper case includes fastening bosses projected downward, and the lower case includes fastening holes in correspondence to the fastening bosses, wherein the upper case and the lower case are coupled at a time as fastening members are fastened to the fastening bosses through the fastening holes, respectively. Mosebrook, as in the rejection of **claim 1**, includes an upper and a lower case held together through a fastening means, the means not the fastening bosses claimed. In the same art of electronic equipment packaging, Yokobori, FIG. 2 and [0002-0006] recite an electronic encasement 10 in which includes fastening bosses 12 and 18 held together using screws 17. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the electronic system recited in Yokobori to produce a device that includes the use of screw fasteners and bosses. Using such components are not new in the art of electronic equipment and one of ordinary skill in the art, apprised of such known devices would have had a likelihood of success in produce the predictable claimed invention.

As to claim 8, Mosebrook and Yokobori recite the claimed: The remote monitor as claimed in **claim 7**, wherein the fastening bosses are formed at corners of a lower surface of the upper case, which is an unexposed surface. See rejection of **claim 7**, in which the bosses are shown at the corners of the electronic case recited above.

As to claim 9, Mosebrook and Yokobori recite the claimed: The remote monitor as claimed in **claim 7**, wherein the fastening member is a fastening screw to be fastened to the fastening boss as the fastening screw is fastened to a hole in the fastening boss while forming a thread. See rejection of **claim 7**.

14. **Claim 10 & 11** are rejected under 35 USC 103(a) as being obvious over Mosebrook, U.S. 5,905,442 in view of Yokobori, U.S. 2001/0035442 and Takezawa et al., U.S. 5,552,970.

As to claim 10, Mosebrook and Yokobori recite except for the claimed: The remote monitor as claimed in **claim 7**, wherein the upper case includes a shrinkage preventive groove for preventing the fastening boss from shrinking at the time of injection molding with a mold. Neither of the above covers the claimed limitations. However, Takezawa, col. 5, lines 25-60, include using a volume reducing groove. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook and Yokobori the recited volume reduction groove of Takezawa such that electronic packaging produced using molding techniques include such a groove for better manufacturability of the molded case.

As to claim 11, Mosebrook, Yokobori, and Takezawa recite except for the claimed: The remote monitor as claimed in **claim 10**, wherein the shrinkage preventive grooves are formed in the upper surface which is an exposed surface of the upper case, each in a shape of a ring in correspondence to the fastening bosses. As in the rejection of **claim 10**, Mosebrook, Yokobori,

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and Takezawa recite using shrinkage volume reducing grooves, but not in the manner claimed.

However, the applicant's specification doesn't disclose any specific reasons or any other description for forming said grooves each in a shape of a ring in correspondence to the fastening bosses. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention the claimed shrinkage preventive grooves. The disclosure, in not specifying anything other than claiming the structure which would show something new or unexpected, the inclusion of the above limitations is deemed to be a design choice.

15. **Claim 12-15** are rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 and Minamura, U.S. 7,248,169.

As to claim 12, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 1**, further comprising a see-through sheet on an upper surface of the upper case, which is an exposed surface, for seeing through an inside through the window, and a protective sheet on an upper surface of the see-through sheet having a see-through window in correspondence to the window on the upper case. Mosebrook, as in the rejection of **claim 1**, recites a top element 211 with a control board 205, the board including a set of indicators 217, which might comprise light pipes for providing the outputs of light emitting diodes (located on main board 205) visibly to the user. However, Mosebrook does not recite the claimed “see through sheet and protective sheet.” In an analogous art of indicator display systems, Mimura, the Abstract, FIG. 1, and col. 16, lines 1-67, recite the use of a display system in which a retro reflective display 3 includes an onboard illumination system. On the top of the display is a clear layer of adhesive material followed by a clear protective sheet. The protective layer and the see through sheet are analogous to the claimed protective layer and the see-through layer. In one

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instance, col. 16, lines 34-45, polyethylene terephthalate is used as part of in an embodiment of the display system. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the structure and materials recited in Minamura to provide a display indication structure that contains materials known in the art. One of ordinary skill in the art would have recognized that applying the known technique recited above would have yielded predictable results and resulted in an improved system.

As to claim 13, Mosebrook and Minamura recite except for the claimed: The remote monitor as claimed in **claim 12**, wherein the see-through sheet and the protective sheet have sizes in correspondence to the upper surface of the upper case, respectively. Mosebrook and Minamura recite using a see through sheet and a protective sheet as in the rejection of **claim 12**. However, neither recites providing the sheets corresponding in sizes corresponding to the upper surface of the upper case. However, although both the claim and a corresponding description disclose these limitations, there are no further explanations with regards to providing this limitation. Hence, the sizing of the sheets is deemed to be a design choice.

As to claim 14, Mosebrook and Minamura recite the claimed: The remote monitor as claimed in **claim 12**, wherein the see-through sheet is provided to be placed on the upper surface of the upper case, with a size corresponding to a size of the window on the upper case, and the protective sheet has a size in correspondence to the upper surface of the upper case. Mosebrook and Minamura recite using a see through sheet as in the rejection of **claim 12**. However, neither recites providing the sheets corresponding in sizes corresponding to the upper surface of the upper case. However, although both the claim and a corresponding description disclose these

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limitations, there are no further explanations with regards to providing this limitation. Hence, the sizing of the sheet is deemed to be a design choice.

As to claim 15, Mosebrook and Minamura recite the claimed: The remote monitor as claimed in **claim 12**, wherein the see-through sheet is formed of PET (polyethylene terephthalate). See rejection of **claim 12**.

16. **Claim 16** is rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 and Minamura, U.S. 7,248,169 and Hamel et al., U.S. 3,482,323.

As to claim 16, Mosebrook and Minamura recite except for the claimed: The remote monitor as claimed in **claim 12**, wherein the protective sheet is formed of a light metal, such as aluminum. Mosebrook and Minamura recite using a protective sheet in the rejection of **claim 12**, but the protective sheet wasn't described as using a light metal. In the same art of electronic monitoring devices, Hamel, col. 2, lines 25-35 and FIG. 1, recite an aluminum front panel with a window for observing an onboard meter. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook and Minamura the aluminum facia described in Hamel to produce a system meeting the claimed limitations. One of ordinary skill in the art would have recognized that applying the known technique recited above would have yielded predictable results and resulted in the predictable system.

17. **Claim 17** is rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 and Minamura, U.S. 7,248,169 and Ishihara et al., U.S. 2002/0104373.

As to claim 17, Mosebrook and Minamura recite except for the claimed: The remote monitor as claimed in **claim 12**, wherein the upper case includes an interference preventive groove in the upper surface of the upper case for preventing interference of burrs left at an edge

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of the protective sheet. Mosebrook recites in the rejection of **claim 12**, providing an upper case and a lower case to house the electronics found in a remote display control system. However, neither recite the use of an “interference groove” as used in the cooperating of the recited components. In the same art of detection devices, Ishihara recites, in [0096], the use of an interference groove used in a detection system. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include an interference groove in the assembly and construction of electronically related devices. Such added techniques aid in better manufacturing and assemblage of the same.

18. **Claim 20** are rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 and Murata, U.S. 3,917,917.

As to **claim 20**, Mosebrook, recites except for the claimed: The remote monitor as claimed in **claim 19**, wherein the mounting portion includes elastic ribs of a plurality of slots for providing restoring force to the operation button. Mosebrook, as in the rejection of **claim 19**, recites using pushbutton controls within a remote control and monitoring device. However, Mosebrook doesn't recite using a plurality of elastic ribs involved with the operation of those controls. In the same art of pushbutton devices, Murata, FIG. 4a and col. 3, lines 27-40, recite a structure of a push button assembly which involves using elastic ribs.

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the electronic button assembly of Murata such that the pushbuttons recited include elastic ribs as a part of the assembly. The use of elastic ribs, as recited in Murata, are old in the art and one of ordinary skill would have had a likelihood of

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success using old and known pushbutton assembly techniques as recited above to make a predictable pushbutton equipped system.

19. **Claims 23 and 24** are rejected under 35 USC 102(b) as being anticipated by Mosebrook et al, U.S. 5,905,442 in view of Lam et al., U.S. 2004/0129544.

As to claim 23, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 19**, wherein the mounting portion includes an interference avoidance slot at a circumference for preventing the operation button from interfering with an electronic component on the control board. Mosebrook, in the rejection of **claim 1**, recites providing a set of switches on a control board 205. However, Mosebrook doesn't specifically point out the switches has having "interference avoidance slots." In the analogous art of switches, Lam, FIG. 2 and [0027], recites a push button switch assembly. Opening 102 serves as an access point to allow the switch to become accessible to a user. Furthermore, the construction of the switch limits the switch travel to the site of the switch and to no other portion of the cooperating electronic circuit, which the opening and the assembly itself to meet the claimed "interference avoidance slot." It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the switch assembly as taught in Lam to produce a device that meets the claimed limitations. The assembly found in Lam is a known technique of producing a switch and one of ordinary skill would have had a likelihood of success in incorporating such a feature into a predictable device that meets the claimed limitations.

As to claim 24, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 23**, wherein the interference avoidance slot is formed at a portion of the circumference where the mounting portion interferes with the electronic component on the

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control board on both sides of the circumference symmetrically. Mosebrook and Lam, as in the rejection of **claim 23**, recites a switch which includes an opening 102 that allows the shaft of a switch 20 to come through the opening with the construction of the switch assembly acting to prevent further depression of the switch to the board.. Mosebrook and Lam doesn't specifically recite an interference avoidance slot having a symmetrically circumference. However, the switch assembly, through the nature of the operation, is limited to the cooperation to the components immediately below it, suggesting that the up/down motion of the push button switch is effectively symmetrical, which meets the claimed limitations. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the switch assembly as taught in Lam to produce a device that meets the claimed limitations. The assembly found in Lam is a known technique of producing a switch and one of ordinary skill would have had a likelihood of success in incorporating such a feature into a predictable device that meets the claimed limitations.

20. **Claims 25 and 26** are rejected under 35 USC 103(a) as being obvious over Mosebrook in view of Murata, U.S. 3,917,917.

As to **claim 25**, Mosebrook recites except for the claimed The remote monitor as claimed in **claim 18**, wherein the upper case includes a downward stepped portion around the button hole, and the mounting portion of the operation button includes a counter stepped portion projected opposite to the stepped portion such that the counter stepped portion is in close contact with an underside of the upper case. Mosebrook, as in the rejection of **claim 1**, includes an upper and lower case in which a set of switches penetrates openings within the top portion of the container. Mosebrook doesn't recite the switch structure including the above claimed limitations.

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In the same art of switches, Murata, FIGs. 4a and 4b, recite a push-button switch in which stepped portions of the casing 4 include a downward stepped portion 14 as well as a matching stopper projections 19. The stepped portion 14 and projection 19 are approximately equal in length. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the switch structure recited in Murata to provide a system in which an electronic system includes the recited claimed limitations. The use of the claimed stepped portions and projections, as recited in Murata, are old in the art and one of ordinary skill would have had a likelihood of success using old and known pushbutton assembly techniques as recited above to make a predictable pushbutton equipped system.

The use of elastic ribs, as recited in Murata, are old in the art and one of ordinary skill would have had a likelihood of success using old and known pushbutton assembly techniques as recited above to make a predictable pushbutton equipped system.

As to claim 26, Mosebrook and Murata recited the claimed: The remote monitor as claimed in **claim 25**, wherein the stepped portion and the counter stepped portion have identical lengths. See rejection of **claim 25**.

21. **Claims 22, 34-36** are rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 and Hur, U.S. 6,271,763.

As to claim 22, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 19**, wherein the mounting portion is hooked to hooks on an underside of the upper case. Mosebrook, as in the rejection of **claim 1**, provides an upper case and a lower case to house the electronics found in a remote display control system. However, Mosebrook doesn't recite using hooks to provide mounting functions to the case. In the same art of monitoring and

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indication systems, Hur recites an audible alarm system with an interchangeable cover in which a base uses a hook portion to provide to provide the engagement of a circuit board to the system.

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the hooking function recited in Hur to provide a system that includes the use of hooks that provide joining or mounting of components as used in electronic packaging. The use of hooks to provide this function is known in the art of electronic packaging and one of ordinary skill would have had a likelihood of success in providing the above system that would have yielded predictable results.

As to claim 34, Mosebrook and Hur recite the claimed: The remote monitor as claimed in **claim 1**, wherein one of the upper case and the lower case includes hooks and the other one includes hook holes in conformity with the hooks. See rejection of **claim 22**.

As to claim 35, Mosebrook and Hur recites except for the claimed: The remote monitor as claimed in **claim 34**, wherein the lower case includes slide portions at the upper surface which is an unexposed surface of the lower case, for removing a mold without interference with the hooks at the time of injection molding of the lower case with the mold. Mosebrook and Hur, while each respectively including an electronic case which includes a top portion and a lower portion, of which Hur, [0037], specifically recites as being injection molded, doesn't specifically recite "slide portions." However, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook and Hur the added feature of having a means to remove the plastic injected molded parts from a mold in the manner claimed. Mosebrook and Hur provides a structure that includes injection molding and one of ordinary skill

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would have provided the desired outcome of having the molded parts removable in such a manner as to provide the predictable invention.

As to claim 36, Mosebrook and Hur recite the claimed: The remote monitor as claimed in **claim 35**, wherein the slide portion is a flat portion extended from an edge of the upper surface of the lower case to a circumference of the lower case under the hook. See rejection of **claim 35**.

22. **Claim 38** is rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 and Hur, U.S. 6,271,763 and Hess et al., U.S. 2006/0017580 and Brandenburg, U.S. 4,594,007.

As to claim 38, Mosebrook and Hur recite except for the claimed: The remote monitor as claimed in **claim 36**, wherein the guide rib has an “L” shaped substantially. Mosebrook, in the rejection of **claim 1**, includes provisions for mounting the processing system 207 onto a bottom half 200. However, Mosebrook nor Hur recite the cases including at least a guide ribs to provide the mounting in which the guide rib is used or the fact that the guide rib is “L” shaped. In the same art of electronic packaging systems, Hess, [0030], and FIG. 2, recites using guide ribs as part of its structure, however, the ribs are not “L” shaped. Brandenburg, FIG. 5b and col., lines x recite using guide ribs in electronic casing 201. The recited guide ribs 211 and 212 are substantially “T” and “L” shaped in nature. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the guide rib structure recited in Hess and Brandenburg to produce an electronic containment system that includes guide ribs. The use of guide ribs within electronic enclosures is not new in the art and one of ordinary skill would have had a likelihood of success in providing known features that would have yielded predictable results and resulted in the improved system.

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23. **Claims 27-29, 32 and 33** are rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 and Bowling, U.S. 2002/0135487.

As to claim 27, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 1**, wherein one of the upper case and the lower case includes a rim, and the other one includes a groove in conformity with the rim. Mosebrook, as in the rejection of **claim 1**, recites the use of an electronic remote system which uses an upper and a lower case to encase electronic components within. However, Mosebrook doesn't recite the cases including at least a rim and a groove. In the same art of electronic equipment packaging, Bowling, FIG. 1, 2, and [0035], recite an electronic identification system in which a groove and rim construction technique is applied to a removable lid and a corresponding base. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the rim and groove construction recited in Bowling to provide a system that includes the use of a rim and groove that provides additional joining of components as used in electronic packaging. The use of rim and groove construction to provide this function is known in the art of electronic packaging and one of ordinary skill would have had a likelihood of success in providing the above system that would have yielded predictable results.

As to claim 28, Mosebrook and Bowling recite the claimed: The remote monitor as claimed in **claim 27**, wherein the rim and groove are formed along, and throughout opposite upper and lower circumferences. See rejection of **claim 27**.

As to claim 29, Mosebrook and Bowling recite the claimed: The remote monitor as claimed in **claim 27**, wherein the circumference of the case having the groove has double circumferences with an inner circumference positioned on an inner side of the groove and an

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outer circumference positioned on an outer side of the groove. See rejection of **claim 27** in which [0035] recites the groove has an O-ring seal, the O-ring contained in a set of grooves which meets the claimed "double circumferences."

As to **claim 32**, Mosebrook and Bowling recite the claimed: The remote monitor as claimed in **claim 27**, wherein the groove includes a sealing portion where edges of an end of the rim are pressed down thereon when the groove is engaged with the projection. See rejection of **claim 29** in which the O-ring is the claimed "sealing portion" while the edges of the end of a rim are the edges to which a cover 38 hingedly engages a lower portion 84.

As to **claim 33**, Mosebrook and Bowling recite the claimed: The remote monitor as claimed in **claim 27**, wherein the groove includes a sealing portion where edges of an end of the rim are pressed down thereon when the groove is engaged with the projection. See rejection of **claim 27**, in which "the projection" is interpreted to be the recited rim and the sealing portion is the recited O-ring.

24. **Claims 30 and 31** are rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 and Bowling, U.S. 2002/0135487 Serio et al., U.S. 5,031,791.

As to **claim 30**, Mosebrook and Bowling recite except for the claimed: The remote monitor as claimed in **claim 29**, wherein the inner circumference and the outer circumference have projection lengths different from each other. Mosebrook and Bowling, as in the rejection of **claim 29**, recites a groove having two different circumferences providing the groove. However, the projection lengths of the groove are the same. However, in a different embodiment of electronic encasement, Serio, FIG. 4, recite at least an outer cover 20 having a shorter projection than the lower case 22, which has a longer projection on the side.

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook and Bowling a different embodiment of an encasement device which has two different projections that encase the system. Providing an electronic case that includes sides having different projected walls is not new in the art, as shown in Serio and one of ordinary skill would have had a likelihood of success in providing the above predictable structure as claimed above.

As to claim 31, Mosebrook, Bowling, and Serio recite the claimed: The remote monitor as claimed in **claim 30**, wherein the inner circumference has the projection length longer than the projection length of the outer circumference. See rejection of **claim 30**.

25. **Claim 37** is rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 and Hess et al., U.S. 2006/0017580.

As to claim 37, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 1**, wherein the lower case includes guide ribs for placing the control board at a position spaced a predetermined height from the upper surface of the lower case, and preventing the control board from shaking. Mosebrook, as in the rejection of **claim 1**, recites the use of an electronic remote system which uses an upper and a lower case to encase electronic components within. Furthermore, Mosebrook, in the same, includes provisions for mounting the processing system 207 onto a bottom half 200. However, Mosebrook doesn't recite the cases including at least a guide ribs to provide the mounting. In the same art of electronic packaging systems, Hess, [0030], recites using guide ribs as part of its structure. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the guide rib structure recited in Hess to produce an electronic containment system that includes guide ribs.

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The use of guide ribs within electronic enclosures is not new in the art and one of ordinary skill would have had a likelihood of success in providing known features that would have yielded predictable results and resulted in the improved system.

26. **Claims 39 and 40** is rejected under 35 USC 103(a) as being anticipated by Mosebrook et al, U.S. 5,905,442 in view of Katou, U.S. 2005/0046556.

As to claim 39, Mosebrook recites except for the claimed: The remote monitor as claimed in **claim 1**, wherein the upper case includes at least one upper supporting boss projected therefrom for supporting the control board. Mosebrook, as in the rejection of **claim 1**, recites the use of an electronic remote system which uses an upper and a lower case to encase electronic components within. Furthermore, Mosebrook, in the same, includes provisions for mounting the processing system 207 into the system. Mosebrook doesn't recite utilizing supporting bosses to provide the mounting means. In the same art of electronic packaging systems, Katou, [0026], recites an electronic enclosure in which a substrate 80 is supported by different supporting bosses. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include supporting bosses in the place of the mounting means as recited in Mosebrook. The use of mounting bosses within electronic enclosures is not new in the art and one of ordinary skill would have had a likelihood of success in providing known features that would have yielded predictable results and resulted in the improved system.

As to claim 40, Mosebrook and Katou recites the claimed: The remote monitor as claimed in **claim 1**, wherein the lower case includes at least one lower supporting boss projected therefrom for supporting the control board. See rejection of **claim 39**.

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27. **Claim 43** are rejected under 35 USC 102(b) as being anticipated by Mosebrook et al, U.S. 5,905,442 and Osrow, U.S. 4,391,575.

As to **claim 43**, Mosebrook, recites except for the claimed: The remote monitor as claimed in **claim 42**, wherein one of the mounting portion and the hanger includes guide projections, and the other one includes a seating portion having guide grooves for slidably placing the guide projections therein, respectively. Mosebrook includes an electronic remote device which includes, as in the rejection of **claim 1**, a base which mounts the remote device to a wall. However, Mosebrook doesn't mention the use of providing slidably guide projections. In a related are of appliances, Osrow, col. 3, lines 52-60, recite using guide projections for a cover 42. The guide projections are used to ease the cover to a bowl 40. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the guide projection devices found in Osrow to provide a device that includes the claimed guide projections. Such a feature facilitates the assembly of disassembled device.

28. **Claims 45 and 46** are rejected under 35 USC 103(a) as being anticipated by Mosebrook et al, U.S. 5,905,442 in view of Ingham, U.S. 4,941,174.

As to **claim 45**, Mosebrook, recites except for the claimed: The remote monitor as claimed in **claim 1**, further comprising, a speaker for announcing a state of progress of the home appliance with a designated sound, for displaying to the user, the status of the remote controlled devices. Mosebrook recites a display panel incorporated into a remote appliance control system. However, Mosebrook doesn't recite a speaker. In an analogous art of electronic communications packaging, Ingham, FIG. 1 and col. 5, lines 55-67, recites a speaker being used in the transceiver. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention

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to include into the communication's system described in Mosebrook the speaker system recited in Ingham. As disclosed in Mosebrook, the display systems provide user indications of the operations and functions of the system using visual indicators. The speaker of Ingham provides a known alternative embodiment of the same indication system except via audio means.

As to claim 46, Mosebrook recites the claimed: A remote monitor for a home appliance, the remote monitor being connected to at least one home appliance with a predetermined communications system for displaying, and controlling of a state of the home appliance at a place far from the home appliance (Abstract), comprising:

a case forming an outside appearance of the remote monitor, including a lower case, (col. 15, lines 40-57, FIG. 4, element 201), and an upper case detachably mounted on an upper side of the lower case (as above, element 211), the upper case having a window, and, a control board in the case, the control board having various electronic components mounted thereon (as above, element 205).

Except for the claimed: and an outer case detachably mounted on an upper side of the upper case, the outer case having a display window in correspondence to the window.

Mosebrook, as previously recited, includes an upper case but not the claimed outer case. In an analogous art of electronic communications packaging, Ingham, FIG.. 1, recites a replaceable front module 54 which is placed on top of a front cover of a transceiver, which is described in col. 6, lines 32-67. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook the additional front module recited in Ingham to produce a system in which a front module is installable over a top cover that is described in Mosebrook. Using front covers, which is analogous to the claimed "outer case," is not new in

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the art of electronic packaging and one of ordinary skill would have had a likelihood of success in providing such substitute components to provide a predictable system that meets the claimed invention.

29. **Claims 47-50** is rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 in view of Ingham, U.S. 4,941,174, and Minamura, U.S. 7,248,169.

As to **claim 47**, Mosebrook and Ingham recite except for the claimed: The remote monitor as claimed in **claim 46**, further comprising a see-through sheet on an upper surface of the outer case, which is an exposed surface, for see-through an inside through the display window, and a protective sheet on an upper surface of the see-through sheet having a see-through window in correspondence to the display window on the outer case. Mosebrook and Ingham recite a processing board with indicators and controls, in element 205, which includes a button housing and support means for indicators in element 211. However, Mosebrook and Ingham do not recite a see through sheet on an upper surface of an outer case. In an analogous art of indicator display systems, Mimura, the Abstract, FIG. 1, and col. 16, lines 1-67, recite the use of a display system in which a retro reflective display 3 includes an onboard illumination system. On the top of the display is a clear layer of adhesive material followed by a clear protective sheet. In one instance, col. 16, lines 34-45, polyethylene terephthalate is used as part of in an embodiment of the display system. The protective layer and the see through sheet are analogous to the claimed protective layer and the see-through sheet. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook and Ingham the structure and materials recited in Minamura to provide a display indication structure that contains materials known in the art. One of ordinary skill in the art would have recognized

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that applying the known technique recited above would have yielded predictable results and resulted in an improved system.

As to claim 48, Mosebrook, Ingham, and Minamura recite except for the claimed: The remote monitor as claimed in **claim 47**, wherein the see-through sheet and the protective sheet have sizes in correspondence to the upper surface of the upper case, respectively. Mosebrook, Ingham, and Minamura recite using a see through sheet and a protective sheet as in the rejection of **claim 47**. However, neither recites providing the sheets corresponding in sizes corresponding to the upper surface of the upper case. However, although both the claim and a corresponding description disclose these limitations, there are no further explanations with regards to providing this limitation. Hence, the sizing of the sheets is deemed to be a design choice.

As to claim 49, Mosebrook, Ingham, and Minamura recite except for the claimed: The remote monitor as claimed in **claim 47**, wherein the see-through sheet is provided to be placed on the upper surface of the outer case, with a size corresponding to a size of the display window on the outer case, and the protective sheet has a size in correspondence to the upper surface of the outer case. Mosebrook, Ingham, and Minamura recite using a see through sheet and a protective sheet as in the rejection of **claim 47**. However, neither recites providing the sheets corresponding in sizes corresponding to the display window of the outer case. However, although both the claim and a corresponding description disclose these limitations, there are no further explanations with regards to providing this limitation. Hence, the sizing of the sheets is deemed to be a design choice.

As to claim 50, Mosebrook, Ingham, and Minamura recite the claimed: The remote monitor as claimed in **claim 47**, wherein the see-through sheet is formed of PET (polyethylene terephthalate). See rejection of **claim 47**.

30. **Claim 51** is rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 and Minamura, U.S. 7,248,169, Ingham, U.S. 4,941,174, and Hamel et al., U.S. 3,482,323.

As to claim 51, Mosebrook, Minamura, and Ingham recite except for the claimed: The remote monitor as claimed in **claim 47**, wherein the protective sheet is formed of a light metal, such as aluminum. Mosebrook, Minamura, and Ingham recite using a protective sheet in the rejection of **claim 47**, but the protective sheet wasn't described as using a light metal. In the same art of electronic monitoring devices, Hamel, col. 2, lines 25-35 and FIG. 1, recite an aluminum front panel with a window for observing an onboard meter. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Mosebrook, Minamura, and Ingham the aluminum facia described in Hamel to produce a system meeting the claimed limitations. One of ordinary skill in the art would have recognized that applying the known technique recited above would have yielded predictable results and resulted in an improved system.

31. **Claim 52** is rejected under 35 USC 103(a) as being obvious over Mosebrook et al, U.S. 5,905,442 and Minamura, U.S. 7,248,169 and Ishihara et al., U.S. 2002/0104373.

As to claim 52, Mosebrook, Minamura, and Ingham recite except for the claimed: The remote monitor as claimed in **claim 47**, wherein the outer case includes an interference preventive groove in the upper surface of the outer case for preventing interference of burrs left

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at an edge of the protective sheet. Mosebrook recites in the rejection of **claim 52**, providing an upper case and a lower case to house the electronics found in a remote display control system. However, neither recites the use of an “interference groove” as used in the cooperating of the recited components. In the same art of detection devices, Ishihara recites, in [0096], the use of an interference groove used in a detection system. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include an interference groove, as recited in Ishihara in the assembly and construction of electronically related devices as found in Mosebrook, Minamura, and Ingham. Such added techniques aid in better manufacturing and assemblage of the same.

Conclusion

32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Hayes, U.S. 2002/0140571, which discloses a system and method for using a hand held device, which Hayes describes as an appliance remote control, the relevant passages found in [0116] of the same.

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cal Eustaquio, (571) 270-7229. The examiner can normally be reached on Mon -Thu 9:00Am-5:30Pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin C. Lee whose telephone number is (571) 272-2963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

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information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. E./

Examiner, Art Unit 2612

/BENJAMIN C. LEE/

Supervisory Patent Examiner, Art Unit 2612